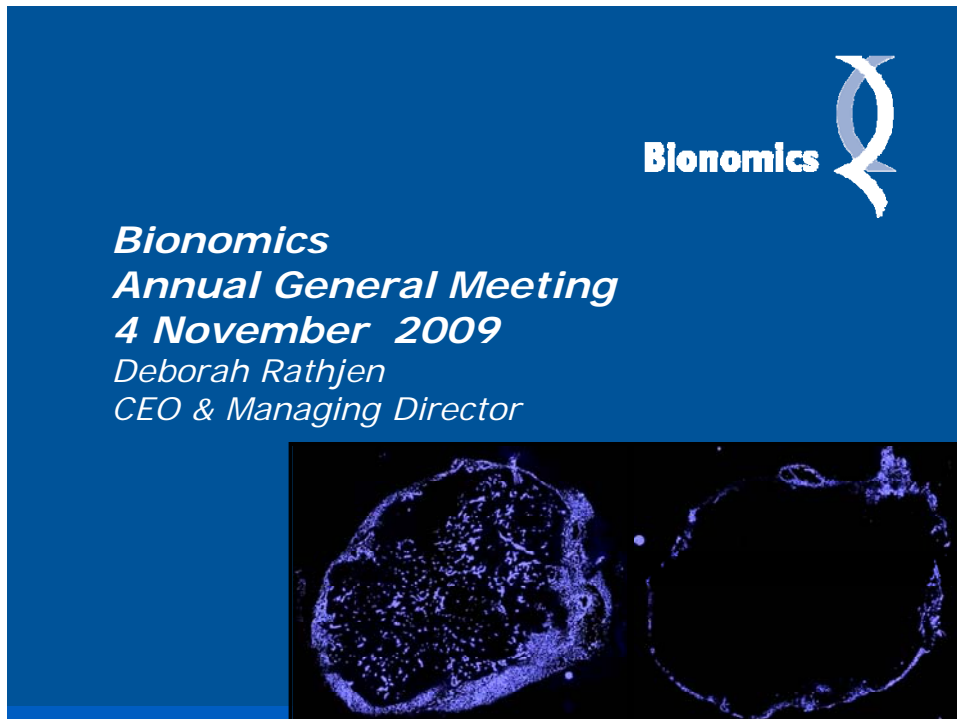


PRESENTATION TO BIONOMICS ANNUAL GENERAL MEETING

4 NOVEMBER 2009

DEBORAH RATHJEN

CEO & Managing Director



I would like to add my warm welcome to all meeting attendees. It gives me great pleasure to report to this meeting that Bionomics has achieved significant clinical milestones and broadened the commercial opportunities for each of its lead assets – anti cancer compound BNC105 and BNC210 which is being developed for the treatment of anxiety.

Major milestones reached in a challenging year



Significant clinical milestones reached for both BNC105 and BNC210

BNC105 clinical trial objectives met:

- Blood levels consistent with VDA and anti-tumour activity
- Evidence of VDA activity confirmed by tumour imaging
- Certain patients achieved stable disease (cancer progression halted) – including mesothelioma (asbestos exposure) and renal (kidney) cell cancer
- No complicating side-effects
- Data suggests BNC105 has ~ >10 fold therapeutic window compared to CA4 in cancer patients

▶▶▶ *BNC105 to progress to US Phase II clinical trial in patients with renal cancer*

Bionomics progress over the year has occurred at an extremely challenging time in the equity markets.

Looking first at BNC105 – Bionomics reached two key milestones in the clinical development of BNC105 for the treatment of solid tumours:

1. The Phase I clinical trial objectives were met with BNC105 showing blood levels consistent with vascular disruption activity (VDA) and with anti-tumour activity with no complicating cardiovascular side-effects. Other VDAs in development induce QTc prolongation – an undesirable effect on the heart - at their maximum tolerated dose levels. BNC105 does not do this and confirms what we had hoped from its preclinical profile – that it would have a greater therapeutic window than its competitors, in particular Combretastatin A4 (CA4) which is in Phase III for the treatment of thyroid cancer.
2. In addition to these results a BNC105 dose of 12.6mg/m² was identified as a dose level which could be taken into Phase II clinical trials.

Armed with the information derived from this successful trial of BNC105, Bionomics has decided to progress BNC105 into Phase II clinical trials initially in renal cancer patients.

Why has Bionomics decided that the first Phase II clinical trial of BNC105 will be in patients with renal cancer?

With the Phase I clinical trial underway in early 2008, the Bionomics team turned its attention to the Phase II program. It was very important for us to identify the next steps for both commercial and clinical reasons. As shareholders know BNC105 has potential for use across a large number of solid cancer types including breast, lung, prostate, colon and our strategy is to license BNC105 to a major player to take it eventually to market once we have Phase II clinical trial data.

We consulted with Australian cancer doctors, in sessions which considered BNC105 positioning relative to the standard of care, projected changes in the standard of care which are likely to take place over the next 2 to 3 years as well as where competitor compounds were in clinical trial. One of the outcomes of these “brainstorming sessions” was a Top 5 priority list. This list included renal cell cancer, a form of kidney cancer.

In parallel we also consulted extensively with oncologists in the US who contributed a number of clinical trial proposals. They also supported renal cell cancer as an initial indication for Phase II clinical trials.

What is Best Oncology Indication for BNC105 Phase II Program?

Therapeutic Area	Australia (top 5)	USA	Competing VDA
Head & Neck	✓	✓	
Ovarian	✓	✓	ASA404, CA4P
Renal	✓	✓	
Colon	✓	✓	
GBM (Brain Cancer)		✓	Azixa, CYT-997
Non Small Cell Lung Cancer		✓	CA4P, ASA404, NPI-2358, ABT751
Mesothelioma	✓		
Breast		✓	ASA404

In each of the cancer indications suggested in the consultations we evaluated the proposed Phase II clinical trial based on the clinical need, market opportunity and the feasibility of undertaking the clinical trial within a two year time frame as well as the path to market.

Let’s take a look at the market opportunity for BNC105 in renal cancer:

Significant medical need:

- Renal cancer - 3% of human malignancies
- 200,000 cases diagnosed worldwide each year (55,000 in the USA)
- Five year survival rate in metastatic disease <2%
- Renal cancer is asymptomatic - 40% diagnosed at late stage

First line treatments are “blockbusters”:

- Sutent (Pfizer) –
 - Approved in 2006 - doubling relapse-free survival from 5 to 11 months
 - Market leader, with market shares of 40% and 60% in Europe and 59% in the USA
 - US\$847M in worldwide sales in 2008
- Nexavar (Bayer and Onyx) –
 - Progression-free survival improved from 3 to 6 months
 - Recent approval in Japan (January 2008)
 - US\$677.8M in sales in 2008, almost exclusively in kidney cancer.
 - Anticipated sales US\$850M in 2009 and US\$1B in 2010.

Significant clinical unmet need exists today in the treatment of renal cancer with 200,000 diagnosed worldwide each year, 55,000 in the US. The 5 year survival rate is still a very disappointing 2% or less for patients with metastatic disease and a significant proportion of patients are diagnosed with advanced disease.

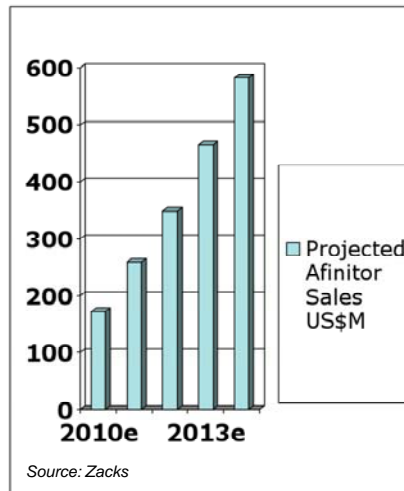
First line treatments Sutent and Nexavar extend the period of progression free survival however despite initial benefit patients relapse, which potentially provides an opportunity for treatment with BNC105. Both drugs have significant yearly sales – in excess of US\$800M anticipated this year – largely from their use in the treatment of kidney cancer.

A very recent option for renal cancer treatment is Afinitor which is marketed by Novartis. Afinitor was approved for the treatment of renal cancer by US and European drug regulatory authorities this year and analysts are projecting peak sales of Afinitor from its use in renal cancer of over US\$500 million.

Afinitor®

- FDA and EMEA approved this year
- Improvement progression-free survival from 1.9 to 4 months
- Sales in renal cell cancer estimated to be US\$520M which will be substantially increased by broadening the indications (*Source: Natixis*)

➤ **Bionomics has contracted the US based Hoosier Oncology Group to conduct a multi-centre Phase II clinical trial in renal cancer patients**



With key data from the Phase I clinical trial now available, the near term risk of our leading asset has been overcome, and confident of both the feasibility of renal cancer as an initial clinical trial setting for BNC105 and the commercial potential – Bionomics has contracted the Hoosier Oncology Group to undertake the first Phase II clinical trial of BNC105. The Hoosier Oncology Group, which is headquartered in Indianapolis, has an extensive network throughout the US and is well placed to undertake this clinical trial.

Major milestones reached in a challenging year



BNC210 now in clinical trials:

✓ Approval to conduct first clinical trial, with ***stage 1 of this trial now completed and showing excellent results:***

- BNC210 is well absorbed - plasma levels equivalent to those required for anxiolytic activity in rodents have been achieved
- BNC210 is very safe
- BNC210 is well tolerated

Anticipate completion of this Phase I by the end of this year.

Phase Ib study planned for Q1, 2010.

➤ ***Strategy to partner with Phase I data - process underway.***

6

Turning attention now to BNC210, Bionomics' innovative compound, which is in development for the treatment of anxiety. BNC210 is a very important quiver in our bow. This year Bionomics gained approval and initiated the first human clinical trial of BNC210 – ahead of schedule. Last week we were delighted to announce that the first stage of this clinical trial has been successfully completed. The results obtained indicate that BNC105 is well absorbed with dose levels measured in the blood of trial subjects equal to that required to show efficacy in rodent models of anxiety. Again our Phase I trial has been able to overcome a significant near-term risk for this key asset which has been shown to be safe and well tolerated. We aim to complete stage 2 of this study, which will provide data on expanded evaluations of BNC210 effects, by the end of this year. We are also planning a single dose proof of concept study in volunteers to begin next year – another significant step forward for the program. I am pleased to report that licensing interest in BNC210 has stepped up following our initial clinical trial data. This intensified interest fits well with our strategy of licensing BNC210 with Phase I data.

Anxiety is a common debilitating mental condition affecting approximately 40 million adults in the US and nearly 1 in 10 Australians each year. Many of the largest blockbuster drugs for treating anxiety are also subject to serious side-effects. The opportunity for BNC210 is enormous in a market where there have been no fundamentally new and effective treatments for decades.

I am extremely proud of the Bionomics' team of scientists and drug developers. When the clinical trial of BNC210 was initiated we were able to say that in less than 2 years the team had been able to progress two newly discovered drugs into clinical trials – illustrating not only the capacity of our powerful drug discovery engine to generate high value drug candidates, but also

the disciplined approach we employ to effectively execute the transition of new drugs into the clinic.

In addition to meeting important clinical milestones, Bionomics' scientists have continued to conduct research which seeks to expand the commercial opportunity for both BNC105 and BNC210. They have also presented the results of their work at major US conferences.

Data presented at this year's American Association for Cancer Research (AACR) in Denver Colorado by Dr Gabriel Kremmidiotis and Ms Annabell Leske provided preclinical evidence for the utility of BNC105 in models of head and neck cancer and lung cancer with BNC105 increasing the effectiveness of radiotherapy and a cytotoxic drug – cisplatin – in these settings.

New data broadens commercial opportunity for lead assets



Data on BNC105 presented at major US cancer conference AACR in April extends the potential clinical utility of BNC105.

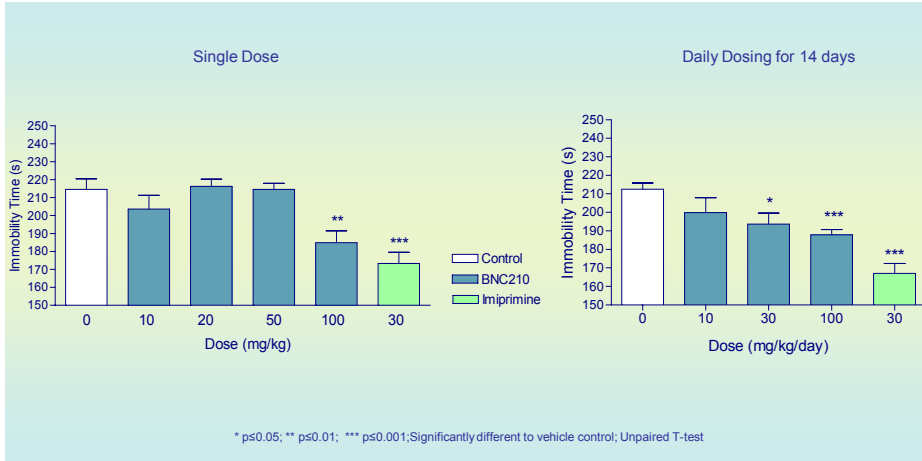
BNC105 in combination with:

- Radiotherapy in head & neck cancer model leads to enhanced anti-tumour activity with reduced side-effects
- Cytotoxic drug cisplatin in lung cancer model leads to enhanced anti-tumour activity

7

Last month Dr Sue O'Connor and Dr Emile Andriambeloson presented new BNC210 data at the Society for Neuroscience conference held in Chicago. This new data indicated that extended treatment with BNC210 did not provoke a withdrawal syndrome in rats and that BNC210 showed anti-depressant properties in a recognized animal model of depression as shown on this slide:

Data presented at major US Neuroscience conference show that BNC210 has antidepressant effect in addition to anxiolytic activity



We have become increasingly excited by the profile of BNC210 relative to current drugs used to treat anxiety, including Valium, Prozac and Buspar. In animal tests BNC210 shows no evidence of inducing sedation, addiction or memory loss. It is fast acting and the pharmacokinetics of BNC210 observed in our current clinical trial favor once a day dosing in humans. This is an extremely compelling combination of properties. If BNC210 is successfully developed with this profile it is very well placed to secure a significant slice of the estimated US\$15 billion anxiety drug market.

BNC210 combines the best features of major classes of current treatments for anxiety



DRUG	No Sedation	No Addiction	No Memory Impairment	Fast Acting	No Drug/Drug Interactions	Once-a-Day Dosing
BNC210	✓	✓	✓	✓	✓	✓
Valium	✗	✗	✗	✓	✓	✓
Prozac	✓	✓	✓	✗	✗	✓
Buspar	✗	✓	✓	✗	✓	✗

9

I would like to spend a few minutes now discussing our valuable partnership with Merck Serono in Multiple Sclerosis. Our deal with Merck Serono was signed in June last year and has progressed according to the project plan developed jointly by Bionomics and Merck Serono.

Valued partnership with Merck Serono in Multiple Sclerosis



Current Treatments

- Partially Effective
- Major Side Effects- market need for safe, effective drugs
- Most drugs to treat MS are injected
- Estimated market is US\$2 billion



Kv1.3: Novel Drug

- Found on T cells - blockers of Kv1.3 stop proliferation of nerve damaging T cells from MS patients
- Bionomics and Merck Serono seeking compounds which are:
 - Highly selective and potent = effective without side-effects
 - Orally acting
 - Extension of disease indication

10

Unfortunately we are not able to say more about the progress of the collaboration, however, Merck Serono is a major player in the field of neurodegenerative diseases, including Multiple Sclerosis (MS). The company developed and markets a leading therapy for the treatment of relapsing MS. Given its vast experience in developing and marketing products for MS, Merck Serono is an ideal partner for Bionomics in this program and it is a partnership which validates our drug discovery approach and technologies. The partnership is fully funded by Merck Serono and they also contribute substantial internal resources to the joint effort. Under the deal Bionomics stands to earn up to US\$47 million in development milestone payments for each selected compound as well as royalties on product sales of licensed compounds. In addition to our clinical programs Bionomics is focused on delivering value to shareholders through this partnership.

Turning now to our financial position:

Strong financial position: Capital raising and careful cash management



2008/2009 Results:

- Revenue to 30 June 2009 excluding grants: \$4.29M
- Reflects increasing inflow of license fees and payments under Merck Serono agreement which can be expected to become more substantial as the licensed compounds progress through clinical development and to market
- Neurofit income from contract research services increased by 108% to \$1.94M
- Non R&D expenses reduced by 27% - tight cost control, careful cost management
- Cash at 30 June 2009: \$4.76M

Cash at 30 September 2009: \$9M – not inclusive of \$2.2M SPP and \$7M investment by Start-up Australia Ventures, both of which have now been received.

11

Our 2008/2009 results saw an increase in the performance of our subsidiary Neurofit. Under the capable leadership of Dr Emile Andriambelason revenues from Neurofit's contract research services grew by 108% to \$1.94 million, reflecting moves to increase the efficiencies of the business as well as opportunities which have presented in the challenging environment of 2008-2009. My congratulations to Emile and the team who have also delivered significant value to Bionomics through their contributions to the BNC210 program and our collaboration with Merck Serono.

Overall revenue was \$4.29 million and with our major \$15 million capital raising now completed, Bionomics is in a very strong position to execute our clinical development plans for BNC105 and BNC210. We were very pleased with the support of our major shareholders and also that of our smaller shareholders who participated through the Share Purchase Plan in this capital raising

which has placed Bionomics in a financial position much envied by other Australian biotech companies. Thank you.

Bionomics is poised to reach a number of important value add milestones over the next 12 months as my last slide indicates.

Outlook – significant value add milestones targeted over the next 12 months



Milestone	Timing
BNC105	
Initiation of Phase II renal cancer trial	Q4/Q1, 2009/2010
Contract to enter into second Phase II cancer clinical trial	Q4, 2009
Initiation of second Phase II clinical trial	Q1, 2010
Presentation of BNC105 clinical data at ASCO	Q2, 2010
Presentation of BNC105 data at AACR	Q2, 2010
Interim Phase II clinical data	Q4, 2010
BNC210	
Complete Stage 2 of current Phase I clinical trial	Q4, 2009
Initiate second Phase I clinical trial	Q1, 2010
Complete second Phase I clinical trial	Q2, 2010

12

It has been pleasing to see positive movement in our share price since the capital raising. With these elements in our favour I believe that Bionomics is positioned well to capture more significant value than is evident in our current share price.

In closing this presentation I would also like to thank Dr Peter Jonson for his leadership of the Board during a period of significant change involving two acquisitions – Iliad Chemicals and Neurofit – which transformed Bionomics and set the Company on a more significant trajectory for realizing shareholder value.

I would also like to thank the entire Bionomics team, including the members of the executive management team Emile Andriambelason, Andrew Harvey, Gabriel Kremmidiotis and Stephen Birrell, for their hard work, enthusiasm and their absolute commitment to reaching our goals.

Thank you for your attendance and for your support in 2009.